

## Acute Coronary Syndrome

GW25-e3564

### Impact of heart rate control on prognosis in patients with ST-segment elevation myocardial infarction

Wang Zhihao<sup>1</sup>, Liu Dayi<sup>2</sup>

<sup>1</sup>Departments of Geriatrics Medicine, The Bethune First Hospital of Jilin University, Changchun 130021, China, <sup>2</sup>Department of Cardiology, General Hospital of Daqing Oil Field, Heilongjiang Daqing 163001, China

**Objectives:** To investigate the impact of the heart rate control on Cardiovascular events and cardiac function in patients with ST-segment elevation myocardial infarction (STEMI).

**Methods:** It was a retrospective analysis of 228 patients with ST-segment elevation myocardial infarction treated in the department of Cardiology of the 1st Hospital of Jilin University enrolled in this study from March, 2013 through March, 2014. The patients were randomly divided into 2 groups of enhanced heart rate control group A (112 cases) and control group B (116 cases). Group A: with Metoprolol Succinate Sustained-release Tablets. Target resting heart rate was 55-65 beats / min. The starting dose of Metoprolol Succinate Sustained-release Tablets was 47.5 mg, and we calibrated resting heart rate once a week, if the heart rate was greater than 65 beats / min, the Metoprolol Succinate Sustained-release Tablets increase the amount of 23.75mg until the resting heart rate reached the standard. Random sample of the same period of hospitalization ST segment elevation myocardial infarction as a control group with no Metoprolol Succinate Sustained-release Tablets. We recorded series of events within one year including of episodes of angina, recurrent myocardial infarction, coronary revascularization, heart failure, left ventricular end-diastolic diameter, serum brain natriuretic peptide (BNP), left ventricular ejection fraction (LVEF), fatal arrhythmias and cardiac deaths.

**Results:** Enhanced heart rate control group was significantly lower in angina pectoris, coronary revascularization, heart failure, cardiac death, re-infarction, fatal arrhythmias, Left ventricular end-diastolic diameter and BNP than control group ( $P<0.05$ ). LVEF was significantly higher in enhanced heart rate control group than in control group ( $P<0.05$ ).

**Conclusions:** The study shows that heart rate control with Metoprolol Succinate Sustained-release Tablets can antagonize sympathetic activity as well and may improve prognosis in patients with STEMI.

GW25-e2265

### Clinical epidemiological study of the hypothesis of endogenous collateral wind on Acute coronary syndrome

Wang Xian<sup>1,2</sup>, Yang Ran<sup>1,2</sup>, Sun Tian<sup>1,2</sup>, Li Hong-Mei<sup>1,2</sup>, Chen Jian-Xin<sup>2</sup>

<sup>1</sup>Dongzhimen hospital Affiliated to Beijing University of Chinese Medicine, <sup>2</sup>Beijing University of Chinese Medicine

**Objectives:** To study the distribution characteristics of TCM four diagnostic information and syndrome of patients with Acute Coronary Syndrome (ACS).

**Methods:** The demographic data and TCM four diagnostic information of 300 eligible patients were collected through the clinical epidemiologic methods, and then hierarchical clustering methods and frequency analysis methods were adopted for data analyzing by STATISTICA 6 software and SPSS17.0 statistical software.

**Results:** (1) Endogenous collateral wind was an independent syndrome of TCM chest pain; (2) Qi deficiency was the main and facultative syndrome of endogenous collateral wind; (3) Blood stasis syndrome had less correlation with endogenous collateral wind than Qi deficiency; (4) Endogenous collateral wind syndrome also related to Yin deficiency.

**Conclusions:** It is the preliminary evidence that endogenous collateral wind is the important pathogenesis of acute coronary syndrome.

GW25-e0153

### Outcomes in Patients with Non-ST-Elevation Acute Coronary Syndrome Randomly Assigned to An Invasive as Compared with A Conservative Strategy: A Meta-Analysis

Li Yingqing<sup>1</sup>, Liu Na<sup>2</sup>, Lu Jianhua<sup>1</sup>

<sup>1</sup>Guangzhou First People's Hospital, Guangzhou Medical University, <sup>2</sup>Sun Yat-sen University Cancer Center

**Objectives:** The goal of the present study was to compare the prognosis of patients with non-ST-elevation acute coronary syndromes (NSTEMI) which treated by invasive or conservative treatment strategy.

**Methods:** We performed a meta-analysis of studies in patients with NSTEMI-ACS to assess the benefit between invasive and conservative strategy for short- and long-term survival. We searched PubMed for published studies from 1990 to November 2012 that studied the effects of an invasive vs. conservative strategy in patients with NSTEMI-ACS, and using the search terms non-ST-elevation myocardial infarction, unstable

angina, acute coronary syndromes, invasive strategy and conservative strategy. The primary endpoints were all-cause mortality at 30 days and 1 year.

**Results:** Seven published studies were included in the present meta-analysis. The pooled analyses shows that invasive strategy decrease the chance of death (risk ratio [RR] [0.839] [95% confidence interval [CI] [0.648-1.086];  $I^2$ , 86.46%]) compared to conservative strategy during 30 days. Furthermore, invasive treatment could also decrease the mortality (RR [0.276] [95% CI [0.259-0.294];  $I^2$ , 94.58%]) compared to conservative strategy until 1 year.

**Conclusions:** In NSTEMI-ACS, compared with conservative strategy, the invasive strategy has a comparable benefit to decrease the mortality of short- and long-term.

GW25-e0534

### JAK2V617F mutant positive polycythemia Vera complicating acute coronary syndrome: a report of 2 cases and literature review

Yang Ming, Zeng Yong

Peking Union Medical College Hospital

**Objectives:** To review the clinical features, diagnosis, prognosis and treatment of polycythemia Vera (PV) complicating acute coronary syndrome (ACS).

**Methods:** The clinical data of two PV complicating ACS patients admitted to Peking Union Medical College Hospital were retrospectively analyzed and the review of recent literatures was performed.

**Results:** Case 1 was a 65-year old man who had been diagnosed PV with a positive result of JAK2<sup>V617F</sup> mutation 3 years ago. At presentation, the patient was suffering from recurrent angina pectoris, and coronary angiography revealed that there was a severe (80%) lesion in the middle segment of left circumflex and a Xience V stent was implanted. After the percutaneous transluminal coronary intervention (PCI), secondary prevention for coronary heart disease and hydroxyurea for PV were given and the patient has been followed up regularly for more than three years and he is going on well. Case 2 is a 44-year old man who was diagnosed PV with a positive result of JAK2 mutation 3 years ago and hydroxyurea, interferon, aspirin was prescribed. He was then to develop splenic infarction, thrombosis of splenic vein, regional portal hypertension, severe varices of fundus of stomach and upper gastrointestinal bleeding. 2 months ago, an AMI of inferior wall occurred and the angiographic findings demonstrated a thrombotic lesion in the proximal segment of the right coronary artery with a moderate stenosis (60%). 1 month ago, an AMI of anterior wall developed and coronary angiography discovered that there were diffuse thrombus in the proximal segment of left anterior descending artery with a severe stenosis (90%) and a complete occlusion in the right coronary artery. After double antiplet therapy with anticoagulation therapy of warfarin was given, the patient recovered gradually.

**Conclusions:** PV complicating ACS is relatively rare. According to recent studies, positive result of JAK2<sup>V617F</sup> mutation, leukocytosis, age greater than 65 years and positive history of thrombosis were the most important predictors of cardiovascular events. Clinicians should combine clinical features, Coronary angiography findings and complications in hope of making an individualized treatment. For those with thrombotic lesion in the coronary artery due to the hypercoagulable state caused by PV, it should be cautious to carry out a coronary revascularization treatment.

GW25-e0766

### Comparison of Circulating Dendritic Cells and Monocyte Subsets at Different Stages of Atherosclerosis: insights from optical coherence tomography

Zhuang Jianhui, Zhu Guofu, Li Xiankai, Xu Yawei

Shanghai Tenth People's Hospital, Tongji University School of Medicine

**Objectives:** Proinflammatory dendritic cells (DC) and monocytes are critically involved in the proceeding and destabilization of atherosclerosis. Recent studies have reported potential associations of specific patterns of circulating DCs and monocytes with the incidence of coronary artery disease (CAD) and ST-elevation myocardial infarction (STEMI); however, further information of DC and monocyte subsets on plaque morphology and vulnerability is uncertain and required.

**Methods:** Forty-seven CAD patients with borderline lesions (stenosis 50%-70%) by coronary angiography (CAG) were enrolled, while 31 subjects free of luminal diameter narrowing  $\geq 50\%$  served as controls. Likewise, 35 patients with STEMI were enrolled and confirmed with the presence of thrombosis by CAG. Plaque features of 47 CAD patients were evaluated at the site of the minimum lumen area and culprit lesions by optical coherence tomography. Peripheral blood (6 ml) was collected from each patient and drawn into heparin-anticoagulated tubes at entry. Circulating myeloid DCs (mDCs), plasmacytoid DCs (pDCs) and monocyte subsets were analyzed using flow cytometry. Plasma levels of biomedical markers, including Lp-PLA2, PTX3, FABP3, FABP4 and myeloperoxidase, were measured using commercial available ELISA assays.

**Results:** There was no discrepancy in the peripheral total white blood cell count, differential count among three groups. Compared to control group, patients with CAD and STEMI had significantly lower proportions of mDC1, mDC2, pDC and a remarkable higher proportion of monocytes with intermediate CD16 expression (Mon2, CD14+CD16+) in peripheral blood. In the OCT subgroup, patients with thin-cap fibroatheroma (TCFA) had a lower proportion of mDC2 than those without TCFA ( $0.70\% \pm 0.38\%$  and  $1.42\% \pm 0.51\%$ ,  $P=0.021$ ). Otherwise, Mon2 proportion retained a higher level in patients with TCFA relative to those without TCFA ( $17.82\% \pm 3.69\%$  and  $14.19\% \pm 2.37\%$ ,  $P=0.034$ ). When proportions were